

meet the requirements of paragraphs (a), (b), (c), and (d) of this section.

[58 FR 34537, June 28, 1993, as amended at 59 FR 48503, Sept. 21, 1994; 60 FR 43888, Aug. 23, 1995; 62 FR 54720, Oct. 21, 1997]

**Subpart B—Emission Regulations for 1977 and Later Model Year New Light-Duty Vehicles and New Light-Duty Trucks and New Otto-Cycle Complete Heavy-Duty Vehicles; Test Procedures**

SOURCE: 42 FR 32954, June 28, 1977, unless otherwise noted.

**§ 86.101 General applicability.**

(a) *General provisions.* This subpart describes test procedures for measuring exhaust, evaporative, and refueling emissions from motor vehicles subject to emission standards under subpart S of this part. This generally includes light-duty vehicles, light-duty trucks, and complete heavy-duty vehicles at or below 14,000 pounds GVWR. The following provisions apply for all testing under this subpart:

(1) Provisions of this subpart apply to tests performed by both the Administrator and manufacturers.

(2) References in this subpart to engine families and emission control systems apply to durability groups and test groups as applicable.

(3) Except as noted, heavy-duty vehicles are subject to all the same provisions of this subpart that apply to light-duty trucks.

(4) The procedures in this subpart apply for testing vehicles powered by any fuel, except as specified in subpart S of this part.

(5) For exhaust emission testing, measure emissions for all pollutants with an applicable emission standard.

(6) All emission control systems designed for production vehicles must be functioning during testing. Maintenance to correct component malfunction or failure must be authorized in accordance with § 86.1834.

(7) The test sequence for the Federal Test Procedure (FTP) includes steps to precondition vehicles for evaporative emission measurements; these steps are required for exhaust testing wheth-

er or not testing includes evaporative emission measurements.

(8) Evaporative emission measurement procedures of this subpart include specifications for testing methanol-fueled vehicles. For vehicles fueled with other oxygenated fuels, use good engineering judgment to apply these procedures. For example, if you are testing an ethanol-fueled vehicle, perform diagnostics in your evaporative emission enclosure with ethanol and propane.

(9) For exhaust emission testing with ethanol-gasoline blends that have less than 25% ethanol by volume, if you use NMHC-to-NMOG conversion factors instead of measuring oxygenates as described in 40 CFR 1066.635, the testing specifications and diagnostic requirements in this part 86 that are specific to ethanol-gasoline blends do not apply.

(b) *Migration to 40 CFR parts 1065 and 1066.* This subpart transitions to rely on the test procedure specifications in 40 CFR parts 1065 and 1066 as follows:

(1) Through model year 2021, manufacturers may use the test procedures specified in paragraph (c) or (d) of this section or, using good engineering judgment, elements of both. For any EPA testing before model year 2022, EPA will use the manufacturer's selected procedures for determining road load parameters and applying acceptable speed-tolerance criteria. For any other parameters, EPA may conduct testing using either of the specified procedures. As allowed under this part, manufacturers may use carryover data from previous model years to demonstrate compliance with emission standards, without regard to the provisions of this section.

(2) Manufacturers must use the following procedures before model year 2022:

(i) For vehicles certified to any of the Tier 3 emission standards specified in subpart S of this part, determine overall driver accuracy based on driven cycle energy as described in 40 CFR 1066.425(j).

(ii) Equipment specifications and measurement procedures that are specific to PM emissions from 40 CFR part 1066 apply for any vehicles certified to

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the Tier 3 PM emission standards specified in subpart S of this part.

(iii) Use 40 CFR 1066.635 to determine NMOG for any vehicles certified to the Tier 3 NMOG+NO<sub>x</sub> emission standards in subpart S of this part.

(3) For model years 2022 and later, manufacturers must use the test procedures specified in paragraph (d) of this section.

(c) *Interim procedures.* Test vehicles as described in this subpart for the appropriate model year, through model year 2021, as follows:

(1) Sections 86.106 through 86.115 set forth general testing specifications and equipment requirements. Sections 86.116 through 86.126 discuss calibration methods and frequency. Sections 86.127 through 86.145 describe procedures for measuring exhaust and evaporative emissions. Sections 86.146 through 86.157 lay out refueling test procedures. Sections 86.158 through 86.166 cover procedures related to the Supplemental Federal Test Procedure and testing related to air conditioning systems. The test procedure for measuring fuel system leaks is described in 40 CFR 1066.985.

(2) Alternate equipment, procedures, and calculation methods may be used if shown to yield equivalent or superior results, and if approved in advance by the Administrator.

(d) *Long-term procedures.* Test vehicles as described in 40 CFR parts 1065 and 1066. The following requirements from this subpart also apply:

(1) Use fuel for testing and service accumulation as specified in § 86.113.

(2) Perform evaporative emission tests as follows:

(i) Use evaporative testing equipment meeting the specifications in § 86.107. This equipment must meet calibration requirements as specified in § 86.117.

(ii) Generate fuel test temperature profiles as described in § 86.129–94(d).

(iii) Follow the general provisions and driving schedules described in 40 CFR part 1066, subpart I. Evaporative testing consists of vehicle preconditioning as described in § 86.132, diurnal measurement as described in § 86.133, running loss testing as described in § 86.134, and hot soak testing as described in § 86.138.

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(iv) Calculate emission results as described in § 86.143.

(3) Keep records as described in § 86.142

(4) Perform refueling emission tests, calculate emission results, and keep associated records as described in § 86.146 through 86.157.

[79 FR 23691, Apr. 28, 2014]

### § 86.102 Definitions.

The definitions in § 86.1803 apply to this subpart.

[79 FR 23692, Apr. 28, 2014]

### § 86.103 Abbreviations.

The abbreviations in subpart A apply to this subpart.

[45 FR 14508, Mar. 5, 1980]

### § 86.104 Section numbering; construction.

(a) The model year of initial applicability is indicated by the section number. The two digits following the hyphen designate the first model year for which a section is effective. A section remains effective until superseded.

*Example.* Section 86.111–78 applies to the 1978 and subsequent model years until superseded. If a § 86.111–81 is promulgated it would take effect beginning with the 1981 model year; § 86.111–78 would apply to model years 1978 through 1980.

(b) A section reference without a model year suffix refers to the section applicable for the appropriate model year.

(c) Unless indicated otherwise, all provisions in this subpart apply to petroleum-fueled, natural gas-fueled, liquefied petroleum gas-fueled and methanol-fueled vehicles.

[42 FR 32954, June 28, 1977. Redesignated at 45 FR 14508, Mar. 5, 1980, as amended at 54 FR 14499, Apr. 11, 1989; 59 FR 48504, Sept. 21, 1994]

### § 86.105 Introduction; structure of subpart.

(a) This subpart describes the equipment required and the procedures to follow in order to perform gaseous exhaust, particulate, and evaporative emission tests on light-duty vehicles and light-duty trucks. Subpart A of this part sets forth testing requirements and test intervals necessary to